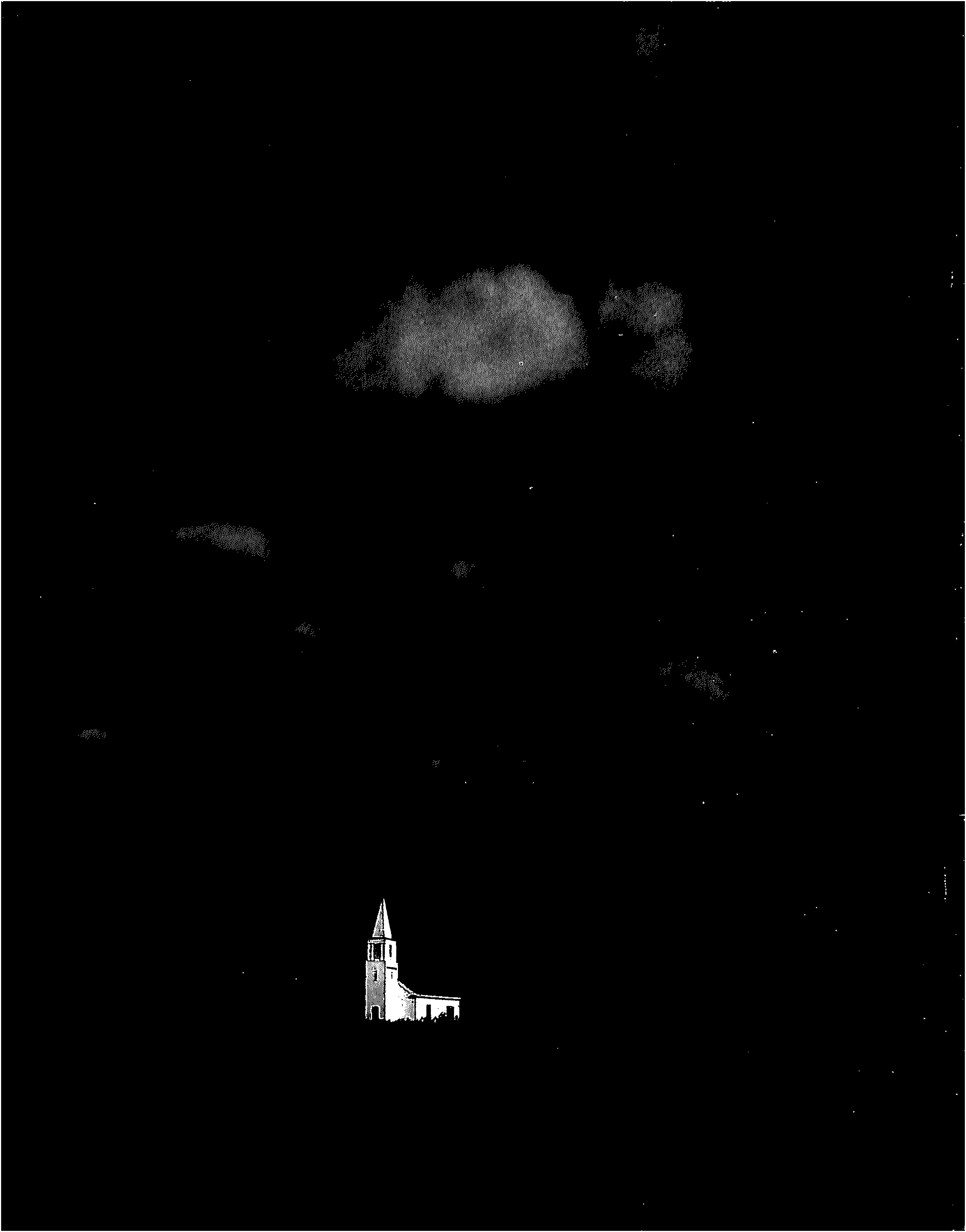
Leica
PHOTOGRAPHY



Leica
PHOTOGRAPHY®

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COVER

Constantine Manos

made this engaging observation "somewhere in northern Greece" during a recent trip. He used a Leicaflex, 90mm Elmarit-R lens and Kodak Ektachrome X film.

◀ INSIDE COVER

Alfred Eisenstaedt

One of his many unpublished photographs. The Indian Baptist Church at Gay Head, Martha's Vineyard, Massachusetts, photographed during a recent summer vacation.

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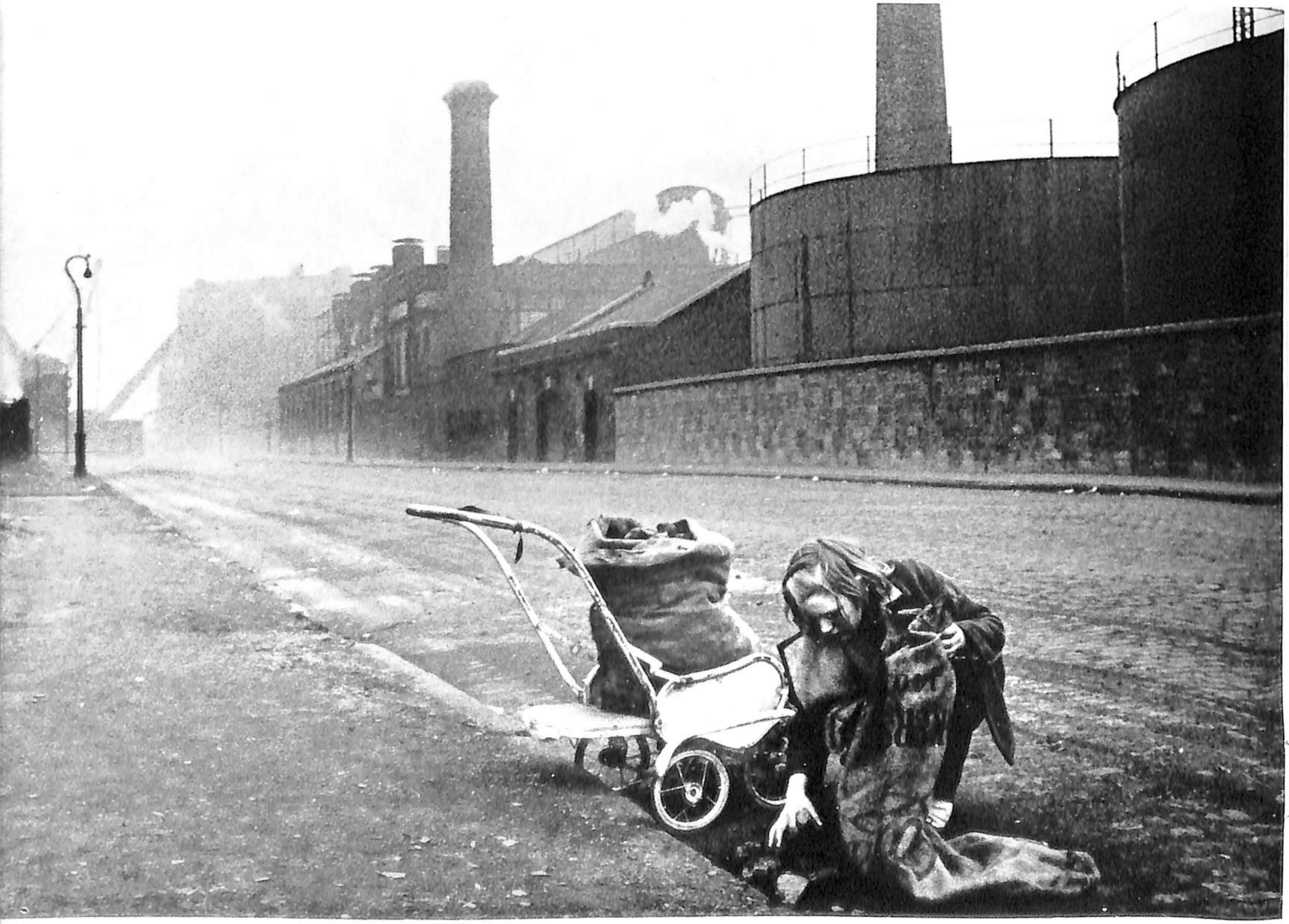
showplace

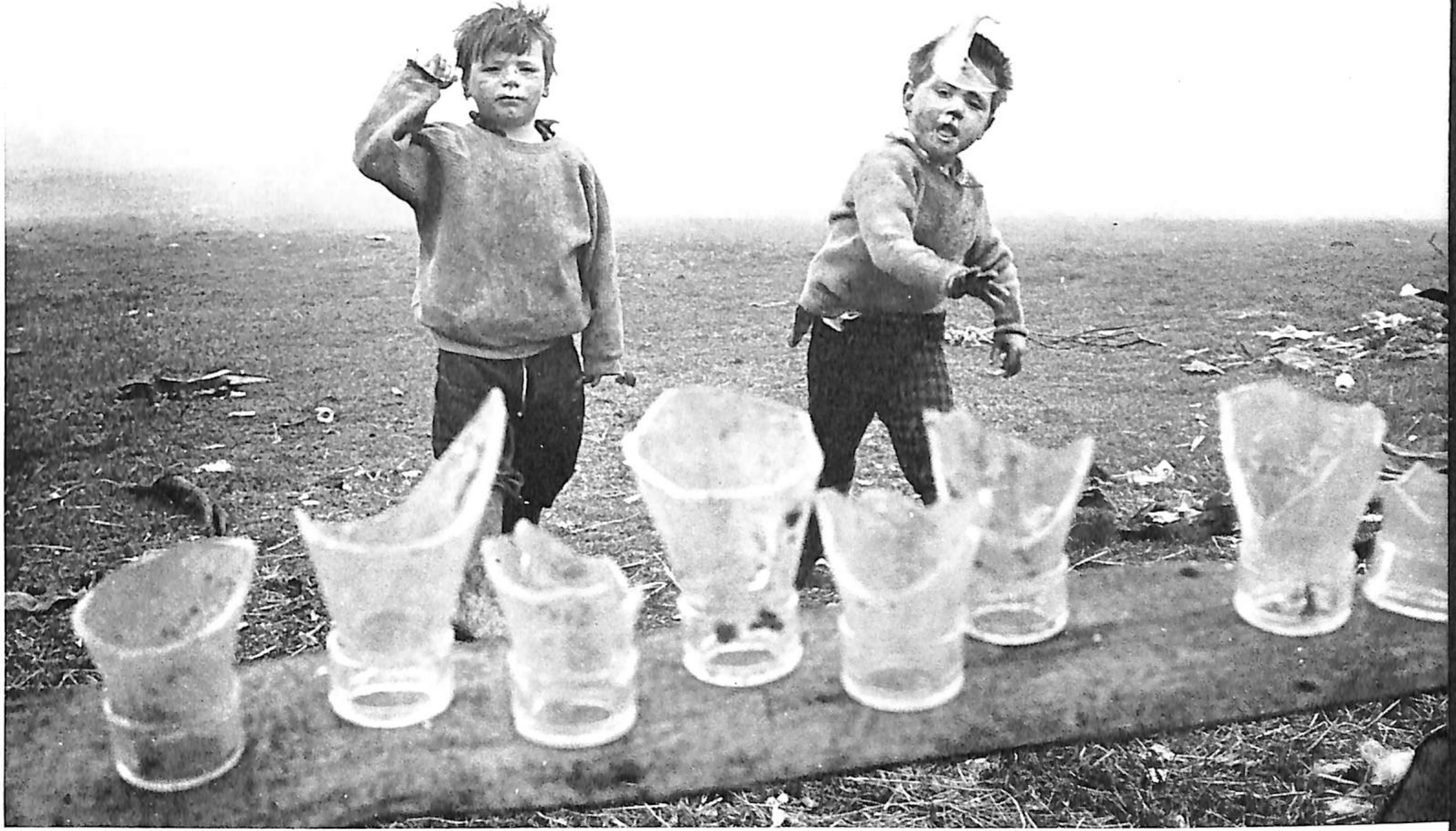
FERGUS BOURKE, photographer

Thirty-one-year-old Dubliner Fergus Bourke came to realize the possibilities of photography as a means of expression through the work of Henri Cartier-Bresson. Books such as "The Decisive Moment" and later, "The Europeans" impressed young Bourke so much that he started to see life, he says, as a series of "photographs." Traveling throughout Europe, working at various jobs, he began using his eyes as a camera, training himself to observe through an imaginary viewfinder. His dream to one day own

Gathering Stray Coal, Dublin

Irish Tinker Boys ▶

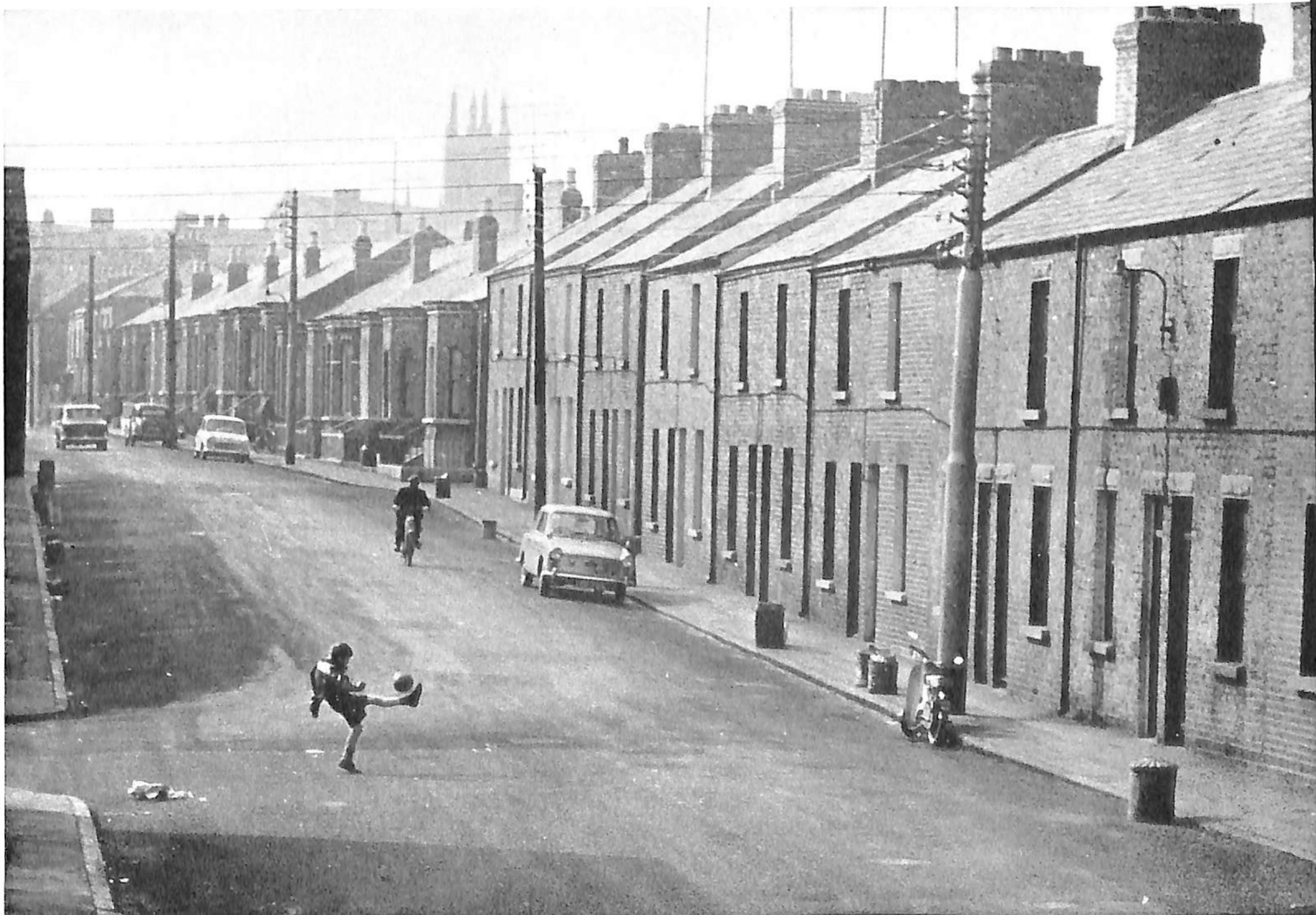


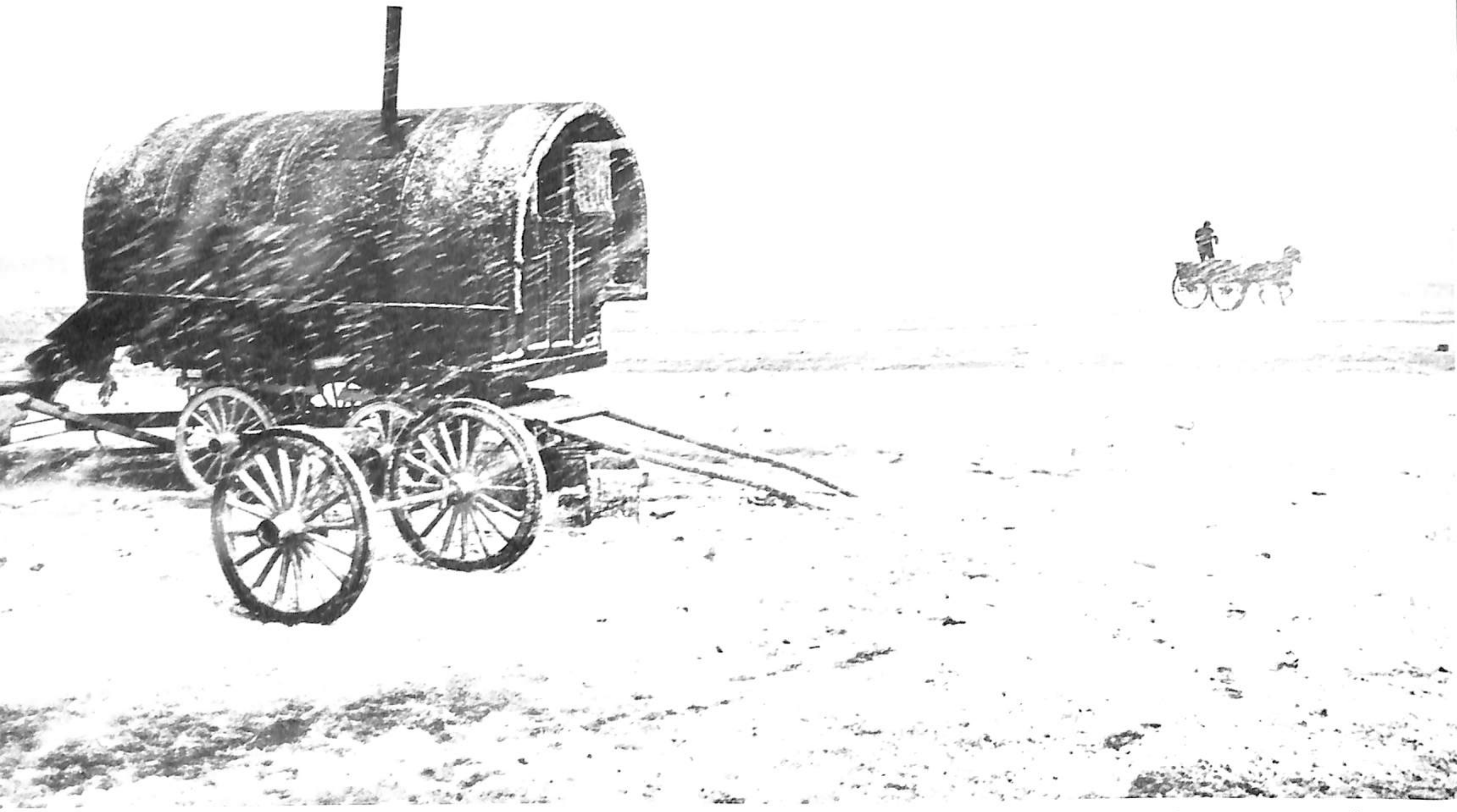


Tinker Kids, Ireland

◄ Journey to the Night Shelter, Dublin

Street Scene, Dublin





Tinker's Camp, Ireland

Irish Tinkers, Dublin ►

a Leica came true little more than two years ago. He has since then been putting it to use, mostly in Dublin itself, on two themes he "assigned" to himself – Dublin street scenes, and the Tinkers, the wandering people of Ireland.

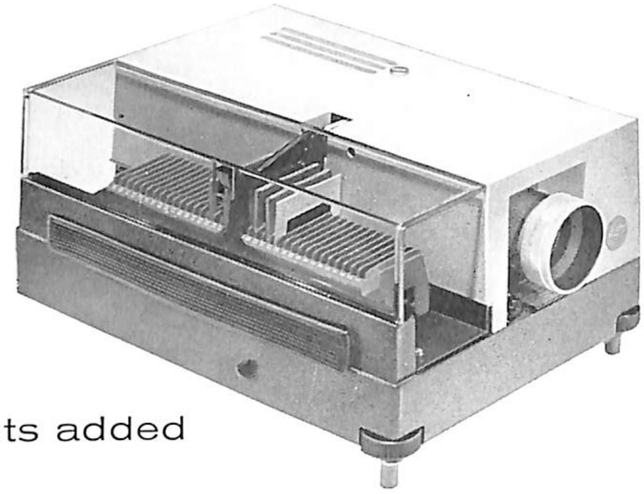
Believing he must become emotionally involved in his subject, he says: ". . . In the case of the Dublin pictures there existed a love affair between myself and the city since childhood. The Tinker series resulted from a desire to break down my own prejudice and fears of these nomadic beggar people. . . . I set out to confront them. . . ." He continues, "In photography I believe that luck plays a strong part but one must train oneself to sense it coming and be prepared for it when it does come. . . . When I am taking photographs only one thing seems to exist – the subject. Everything else, myself, the camera, seems to be in a suspended state and controlled by some automatic machine in my brain. I can never remember the actual moment of taking the picture."

He feels it is most important to get in as close as possible to the subject and "here the silence of the Leica is a blessing indeed."

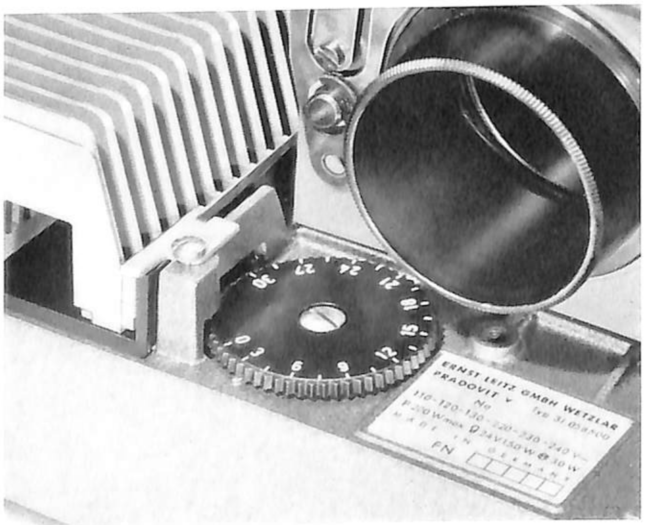
Both groups of photographs have been seen in separate one-man shows in Dublin, and the "Tinker" series has recently been exhibited in London. They have also been shown on Irish television. The photographs on these pages are an eloquent sampling. Bourke uses his Leicas, an M3 and an M2, with the 35mm, 50mm and 90mm focal length lenses.

new Pradovit-Color projector has halogen lamp

optical, mechanical improvements added



Newest of the Leitz projectors is the Pradovit-Color, featuring halogen-lamp illumination, low operating temperatures, outstanding screen sharpness and evenness of illumination. The Pradovit-Color is more than a mere evolutionary improvement in an already outstanding projector, however. It offers not only the advantages of halogen lamp illumination, but also an array of mechanical operating features from interval timer and built-in tape synchronization to a lamp-saving switch which doubles lamp life.



INTERVAL TIMER offers 3-to-30 second slide-changing times.

many new features

Leitz's goal in designing the new Pradovit-Color has been to further refine the optical system while making the mechanical operation more convenient and reliable than ever. The 24-volt, 150-watt halogen lamp offers longer life than ordinary tungsten bulbs, and does not blacken with age, retaining full efficiency. A feature of the new projector's circuitry is a voltage-reduction, "lamp-saver" switch which cuts voltage. Brightness loss on screen is barely noticeable when this switch is used, yet lamp life is doubled.

For highest efficiency, the halogen lamp can be centered not only horizontally and vertically, but forward or backward as well.

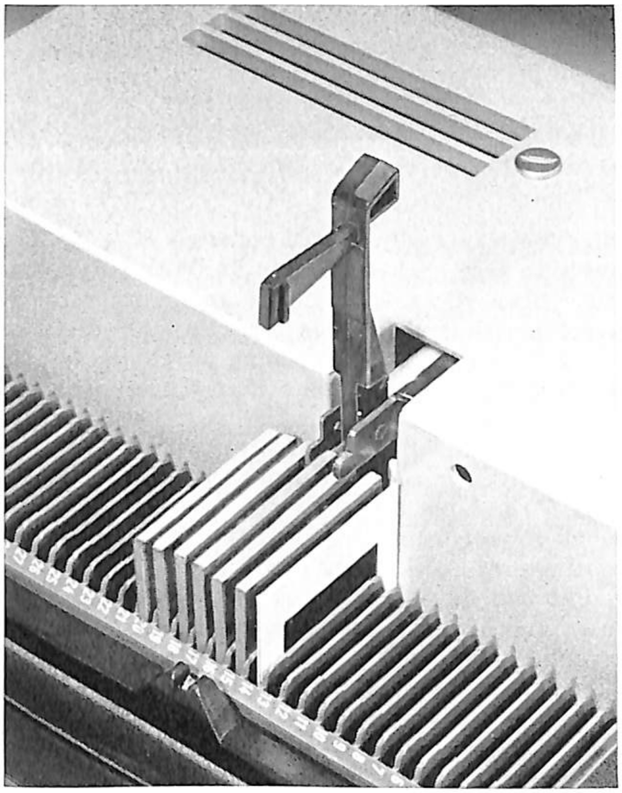
The low-voltage halogen lamp produces so little heat that film gate temperature remains about 140°F., yet light output is practically as high as that from a conventional 500-watt bulb. To help keep operating temperature low and to condition slides against "popping" before they reach the film gate, a new two-path, axial-radial blower pulls in cool air and pushes hot air out. Cool air continually bathes both lamp housing and slide stage while warm air is blown into the magazine compartment to pre-warm and dry slides before they enter the gate.

Although the Pradovit-Color accepts standard Leitz slide magazines, practically all its operational features are different from those of other models. For instance, the remote control changes focus not by moving the lens, but by moving the slide stage – either forward or backward, depending on which way the switch is pushed. This eliminates the need for special lens collars and leaves focusing unaffected by the weight of long heavy lenses. Only two buttons are needed on the remote control – one for focusing, the other for slide changing. The direction of slide magazine travel is controlled by pushing the button either forward or reverse, as desired.

no screen glare

Another new and attractive feature of the projector is its black-out shutter which keeps the screen dark when an empty magazine compartment comes along and no slide is in the film gate. There is never any blinding, blank-screen glare.

Not only the blower, but also the slide-changing mechanism of the new Pradovit-Color is smooth and silent, using four low-friction rollers to bring each



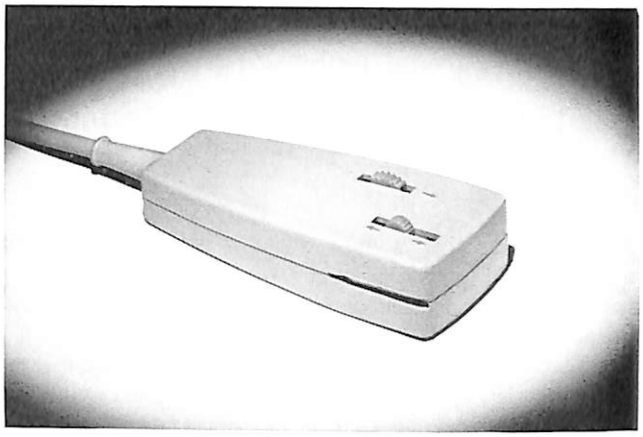
TRANSPORT ARM folds up, makes slide removal for editing easy.

slide into the projection gate. And it will never damage slides. If a bent or damaged slide should enter the gate but not seat properly, the shutter will stay closed, the screen stay dark. But because of its roller action, the mechanism is exceptionally jam-resistant and will refuse only the most badly distorted slide mounts.

An aspect of the Pradovit-Color's automation is its built-in interval timer. This can be set to change slides (with the magazine traveling either forward or in reverse) at intervals adjustable from about 3 to 30 seconds. But at any time you can override the preset changing interval to repeat an already-projected slide or to progress to the next one before the preset time has elapsed. This does not affect the interval timer's setting; the cycle starts anew each time it is interrupted.

convenient slide handling

The new projector's magazine channel is completely accessible and a magazine can be inserted from either the front or rear of the projector. The design of the new slide transport arm permits it to be folded upward out of the magazine's path. This makes it simple to remove and replace for editing individual slides – even those directly in line with the film gate. A small handle on the transport arm makes it convenient to operate the arm manually when desired. Should a jam occur, transport movement is stopped instantly; actuating the cycle button will return the slide to the magazine.



REMOTE CONTROL moves slide stage, not lens, to focus image.

By using the interval timer, you can let the projector run itself to the accompaniment of a taped background. You can sit back and enjoy the show and forget about slide changing altogether. But for a really professional slide presentation, you can couple the Pradovit-Color to a tape recorder synchronizer and use taped signals to change slides in perfect time with the recorded music and sound.

useful accessories

Several accessories are available or in preparation for the new Pradovit-Color to increase its usefulness. Among them are a light pointer (for indicating details on the screen image) which attaches to the remote control cable and a built-in unit for repeat-projection of from 2 to 48 slides for use in advertising and business applications. Also available are extra magazines and lenses, and a 16-foot and 50-foot extension for the special remote control cord supplied with the unit.

Lenses from 50mm to 250mm are available for the Pradovit-Color projector.

The Pradovit-Color projector, complete with 90mm Colorplan f/2.5 lens, built-in interval timer, 24-volt, 150-watt halogen lamp, voltage selector for 110-240 VAC operation, AC connecting line cord, 10-ft. remote-control cord, snap-on projector cover, and one 36-slide capacity magazine (Cat. No. 30616) is $219.00.

tripod titles

Edward B. Hansbury

make the accessories yourself

Did you ever read a book without a title? Or, go to a movie that didn't have a title and cast of characters? Or, get off the train at a station that had no name? Not likely!

So, why show your slides, which represent a considerable investment in time, effort and money, in the usual haphazard fashion without titles?

With your Leica camera, a 50mm lens and a tripod, you can, with a little preparation and practice, produce beautiful titles to introduce a subject, change the subject, denote a lapse of time or bridge a gap in a travelog. They will make the difference between a show of slides and a slide show.

To get started, obtain from your stationer or art-supplies dealer, a sheet of single-weight illustration board. Have him cut two pieces, each 13″ x 17″, being sure the corners are square.

Piece No. 1 is the "Baseboard." With a felt-tip marker or Speedball pen draw on it just the corners of a centrally located rectangle 11″ x 15″ and within this a complete rectangle 8″ x 12″. Mark one long side of the board "Top Right." In the exact center of the rectangles glue a postage or trading stamp for a focusing point. Now, draw a diagonal line from the upper left corner through the center of the stamp and 2 inches beyond.

Piece No. 2 is the "Lettering Guide." On it, in pencil, draw a centrally located rectangle 8″ x 12″. Cut out this area with an X-acto knife or single-edge razor blade. Do this on top of an old magazine to avoid marring your table top! Mark 1″ divisions along each edge of the opening as guides for the straight-edge you will use to align the lettering.

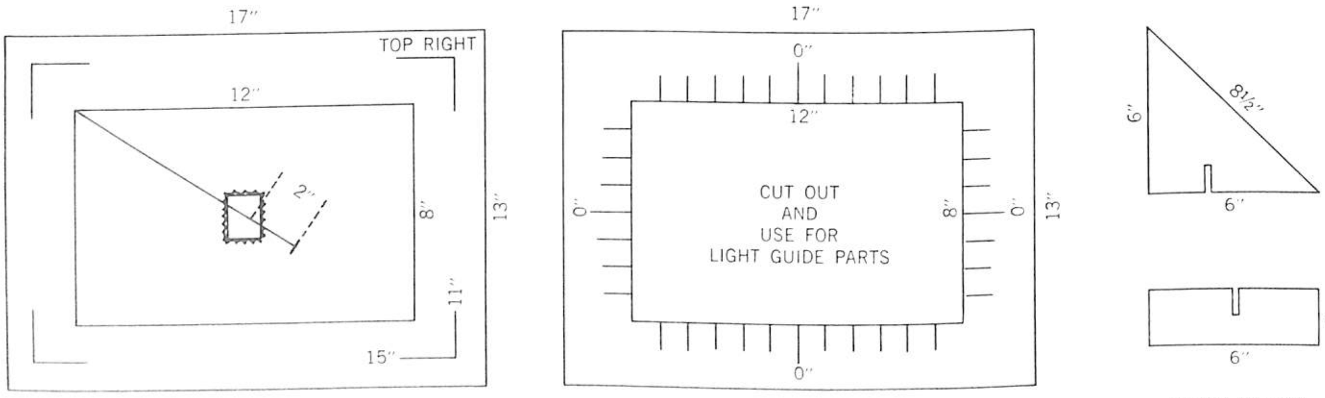
The "Light Guide" is cut from the center scrap piece. Draw a right triangle on it with 6″ sides and an 8½″ hypotenuse, and cut this out. Also cut a piece 2″ x 6″, and notch both pieces as shown, with the notch slightly narrower than the thickness of the card so they make a snug fit.

Put the "Baseboard" on a convenient table, stand the "Light Guide" on the diagonal line with the point on the 2″ mark to the right of center. A 36″ length of ¼″ wood dowel, obtainable from your hardware dealer or lumber yard, is held against the "Light Guide," rising to the upper left.

A 500-watt reflector type, 3400° K, photoflood bulb in a spring clamp is attached to a light stand, stepladder, door edge or other convenient place so the face of the bulb is centered on the upper end of the dowel. When everything is properly aligned, remove the dowel and the "Light Guide" and tape the "Baseboard" to the table.

Almost any tripod can be used as long as it is *steady* and has a large Ball and Socket Tripod Head

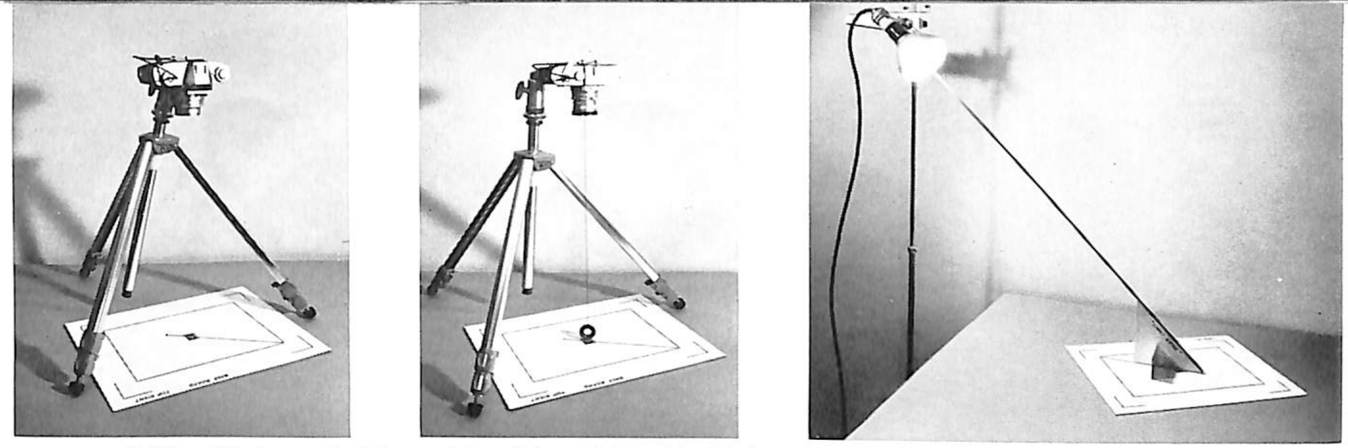
TITLING ACCESSORIES can be made at home from illustration board. Light guide pieces are joined to make a base for dowel "pointer."



BASEBOARD

LETTERING GUIDE

LIGHT GUIDE



LEICAFLEX (left) and Leica can both be used for tilting. Light guide (right) automatically positions lamps for angle and distance.

(cat. #14121) or a pan head. Attach your Leica and aim it straight down at the "Baseboard" with the camera base parallel to the long dimension. Be sure that the shadows of the legs fall outside the 8″ x 12″ picture area.

For the Leicaflex, with the 50mm Summicron-R lens, adjust the tripod so that when the lens is sharply focused on the stamp, the 8″ x 12″ rectangle completely fills the ground glass viewing screen.

For the Leica M2 or M3, the target area is well within the focusing capacity of the Dual-Range 50mm Summicron lens (cat. #11318) and there is no parallax error. Merely align the bright-line finder frame exactly with the 8″ x 12″ rectangle and focus sharply on the stamp; the distance scale will then show 21 inches.

For those Leica owners using the 50mm Elmar, Summitar or standard Summicron lenses it will be necessary to use a 2+ Portra or Closeup lens to cover the 8″ x 12″ area. *(Close Focusing Devices #16,507 and #16,509 can also be used with certain Leica lenses . . . Ed.)* Centering the camera can be done very easily, even though the regular viewfinder cannot be used at this distance. Cut a disk of cardboard the size of one of your Series VI filters and punch a tiny hole in the exact center. Put this into an adapter ring on the lens with a knotted thread passed through the hole and a small iron washer hung on the lower end. Adjust the tripod to accommodate the lens-to-subject distance shown on the table which comes with the auxiliary lens and center and washer over the stamp. A visual alignment of the camera base with the long edge of the "Baseboard" is sufficiently accurate.

repeatable results

Almost any film can be used as long as it is balanced or filtered for 3400° K photoflood illumination.

The essence of any sucessful process is repeatable results and I strongly urge you to keep a record of your exposures for later re-use. Take meter readings of the various backgrounds used when the light is positioned as previously described. Don't worry about the lettering as it will record properly over a wide range of exposures. With the light at the 36″ distance, a good basic exposure is f 4.5 at 1 30 second with color film that has an A.S.A. rating of 40, with slight adjustments up or down depending on the reflectivity of the background material.

Three-dimensional ceramic and plastic letters, in many sizes and styles are obtainable from Hernard Mfg. Co., Yonkers, N.Y. and Micro Sign Products, Santa Monica, Calif. Plain back or sanded back letters are preferable for easy placement and adjustment. Having the light come from the upper left casts a shadow to the right and bottom of the letters adding depth and contrast. Be neat and exact! A small error on the original will be greatly magnified on the screen.

making the slide

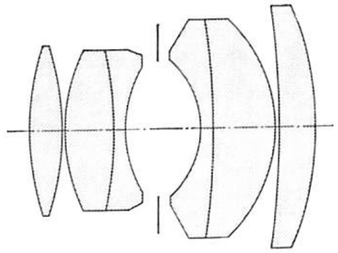
Let us make the first title slide. Select a suitable cloth background, cut a piece about 11″ x 15″ and place it on the "Baseboard." Place the "Lettering Guide" over it, flushing the edges. Spell out the message, aligning the letters with a straight-edge or ruler. A pair of long tweezers can be helpful, especially with the smaller letters. Carefully remove the "Lettering Guide" and photograph the setup. By using an 11″ x 15″ background, you have provided a safety margin in case you made a slight error in focusing or aligning of the camera.

Backgrounds can be of many materials – cloth, art paper, placemats of bamboo or grass, sandpaper, gift-wrap paper, calendar photos, etc. Splashes of color can be introduced with airline, hotel and railroad baggage stickers, decals, small plastic and metal toys and novelties, sea shells, dried starfish and seaweed, bits of netting, etc.

Hand lettered titles are easily made, tracing the letters from books of lettering, newspaper ads and magazines, then coloring them with felt-tip markers or water colors.

Don't be afraid to tackle a slide which might call for artwork even if you are not trained in art. Trace sketches from newspaper and magazine ads, adding your own color and details.

These are just a few suggestions for titles. Your own imagination is the best "weapon" for attacking the problem. Since the set-up of the equipment is now a positive thing, you can concentrate on the creative aspect of titling. Have fun!



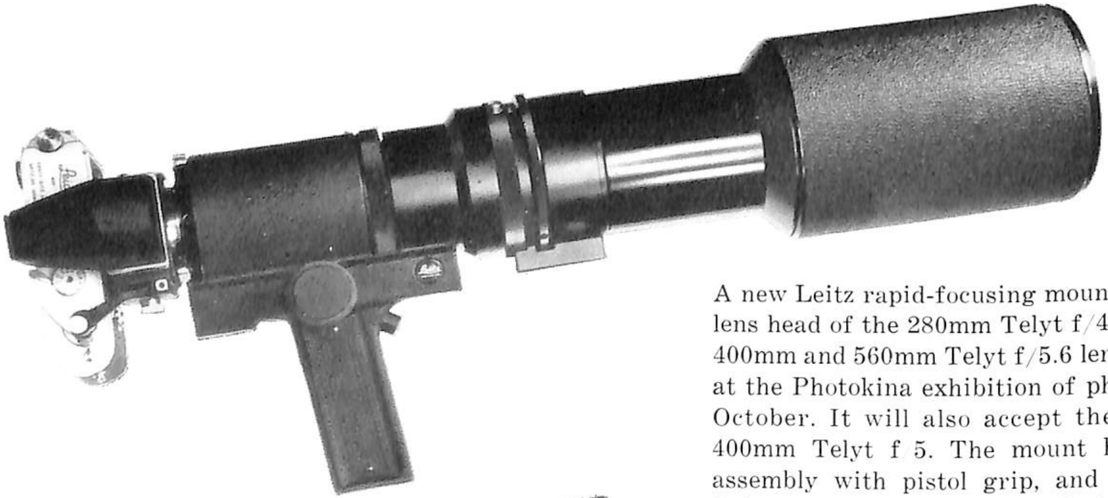
50mm Noctilu

ne

The six-element Leitz 50mm Noctilux f/1.2 lens for the Leica was one of the most talked-about optical innovations at the October Photokina exposition in Cologne, Germany. It offers corner-to-corner correction, sharpness and contrast never before available in a lens of this speed.

The appearance of the 50mm Noctilux lens, first of an experimental production series based on new manufacturing techniques from Leitz, is a major advance in the field of lens design and production.

Until now, conventionally designed and made lenses have used only flat and spherically ground surfaces. This has produced such unwanted effects as spherical aberration, which means that light rays passing through the edge of the lens focus in a different plane then do the central rays. Correcting this and other problems of high speed lens design is best solved by the use of aspherically ground lens



fast-fo

Visoflex acces

A new Leitz rapid-focusing mount which accepts the lens head of the 280mm Telyt f/4.8 lens and the new 400mm and 560mm Telyt f/5.6 lenses was introduced at the Photokina exhibition of photo equipment last October. It will also accept the lens head of the 400mm Telyt f/5. The mount has a sliding tube assembly with pistol grip, and bayonets onto the Leica with Visoflex attached. A shoulder stock is provided to aid steady free-hand shooting, and bushings for attachment of the unit to a tripod.

Finger pressure on the "trigger" of the pistol grip frees the tubes for focusing; for extra-fast focusing, the pistol grip can be pushed back and forth. A thumb wheel on the right-hand side provides fine focusing.

A pre-set aperture tube, used with the new 400 and 560mm lenses can be attached to the front of

x f/1.2 lens has aspherical elements

v optic has almost no flare or coma

surfaces. But grinding and checking such surfaces, especially on a production basis, has not been successfully accomplished before.

However, Leitz's Glass Research Laboratory, lens designers and production engineers, working as a scientific research team, came up with both the optical glasses and methods needed to achieve the long-sought goal. The result is the new Noctilux f/1.2 lens.

The "secrets" behind the unparalleled performance of the Noctilux lens are:

1. Aspherical lens surfaces. Heretofore, it has been impossible to produce such nonspherical surfaces on a production line.
2. High-refraction optical glass. Leitz's own glass laboratory has developed the glasses which make it possible to produce a high-speed lens with superlative correction across the entire field.
3. Close relationship to Gauss-type lenses with but a few glass-air surfaces for excellent contrast.
4. Progress in optical computation which provides contrast and correction, even at f/1.2, which virtually eliminate flare, even at full aperture. Superb color work can be done with the new Noctilux with existing light without fear of loss of color saturation on the transparency.

The performance of the 50mm Noctilux f/1.2 lens far surpasses previous lenses of this aperture. And, with three times the speed of the Summicron f/2, it offers new possibilities for photography by existing light in black-and-white and especially in color. The 50mm Noctilux will be available in mounts for the Leica M3 and M2. Price is expected to be $678.00. A small supply of this lens will be available by the end of this year on a ration basis to professionals. Regular deliveries will begin in the summer of 1967.

---

cusing mount for long lenses

sory accepts new 400mm and 560mm lenses

the new mount; the lens heads of the 280mm and 400mm f 5 Telyts attach directly to the mount without this tube, but by means of a special bayonet lug. A slot accepting Series VII filters, a single set of which can serve all three lenses, is built into the base of the new rapid-focusing mount.

Two adjustable stops make it possible to pre-focus on two distances for quick shifts of focus during rapid action with predictable focusing points, such as home-plate and first base.

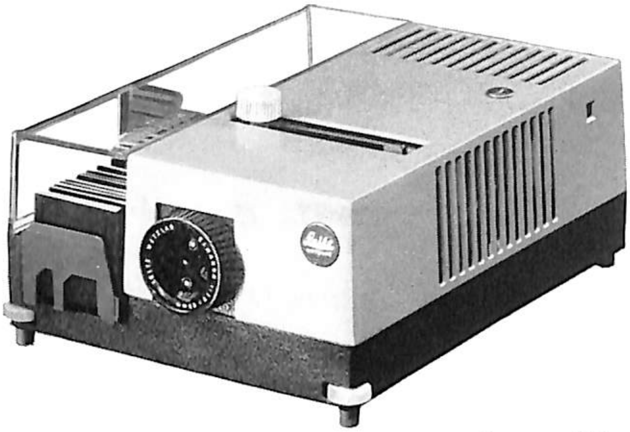
Minimum focusing distances when the new mount is used are: 280mm lens – 7′ 3″ (2.2m); 400mm lens – 11′ 10″ (3.6m); 560mm lens – 21′ 8″ (6.6m). The mount, including shoulder stock, but without lens, weighs approximately 42 ozs.

The two new 400mm and 560mm Telyt lenses are highly corrected achromats especially designed for use with the new rapid-focusing mount and feature exceptionally high resolution and contrast. Each has a maximum aperture of f/5.6, a minimum aperture of f/32 and features a telescoping, integral lens hood. The 400mm lens has a 6° angle and weighs 22 ozs.; the 560mm lens has a 4.5° angle and weighs 61 ozs.

Price of the rapid-focusing mount (Cat. No. 14,136) will be $363.00. The bayonet ring (Cat. No. 14,138) for the lens heads of the 280mm Telyt f/4.8 and 400mm Telyt f 5 lens heads will cost $9.00. The price of the pre-set aperture tube for the new 400 and 560mm Telyt f 5.6 lenses (Cat. No. 14,137) will be $96.00. Price of the 400mm Telyt f 5.6 lens-head (Cat. No. 11,866) is $123.00; of the 560mm Telyt f 5.6 (Cat. No. 11,867), $201.00. The equipment is expected to become available in the first half of 1967.

Pradolux 24 is bright, small

manual projector is cool-running



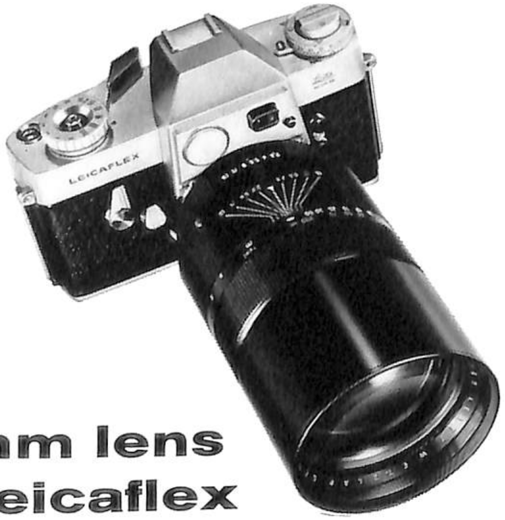
Combining the small size of the Pradolux with the brilliant halogen-lamp illumination of the Pradovit-Color, the Pradolux 24 made its bow at Photokina.

The Pradolux 24 accepts standard Leitz slide magazines, but employs a manually operated knob to transport the slides in and out of the projector and advance the magazine forward or backward. The same knob control is used to adjust the focus.

With its 150-watt halogen lamp the light output of the Pradolux 24 is practically equal to, and in some instances superior to, the light output of many 500-watt projectors.

The new projector combines mechanical simplicity with the brightness, cool running and general optical sophistication of the more expensive Pradovit-Color projectors. It will be available in early 1967. Complete with 85mm Elmaron f/2.8 lens, (Cat. No. 32,203), its price will be $117.00.

The Pradolux 12 with low-voltage 100 watt 12-volt lamp is also still available. It will fulfill the demand of those who use smaller projection screens and do not require the high light output of the 150 Watt lamp.



new 180mm lens for Leicaflex

f/2.8 Elmarit-R introduced

The scope of the Leicaflex lens system has been increased by the introduction of the 180mm Elmarit-R f/2.8, a five-element, true telephoto lens incorporating high-refraction glass for outstanding resolution and contrast. It is the sixth lens to become available for the Leicaflex in a series which also includes focal lengths of 21, 35, 50, 90 and 135mm.

180mm ELMARIT-R	
MAXIMUM APERTURE	f/2.8
MINIMUM APERTURE	f/16
NO. OF ELEMENTS	5
TYPE	telephoto
ANGLE OF VIEW	14°
CLICK-STOPS	full- and half-stops
MINIMUM FOCUSING DISTANCE	7′
MINIMUM FOCUSING AREA	8.5 x 12.75″
FILTER SIZE	Series VIII
WEIGHT	46¾ ozs.

Closest focus is approximately 7 feet (2m), which provides a reproduction ratio of 1:9. Minimum field size is about 8.5 by 12.75 inches (213 x 320mm).

The new lens, in a black-anodized aluminum mount, couples automatically to the Leicaflex's exposure meter, has a non-rotating focusing movement and features a built-in lens hood.

The speed, long focal length and brilliant contrast of the new 180mm Elmarit-R suit it especially for sports, theatrical and animal photographers and all others who must work at a distance from their subjects, often in dim light.

The 180mm Elmarit-R f/2.8 lens (Cat. No. 11,909) will cost $378.00. Deliveries will begin early in 1967.

1:1 close-up ring for Leicaflex

also works with Elpro lenses

Really close close-ups with the Leicaflex are made possible by a new Combination Ring which fits between camera and lens, providing extra extension. The combination ring has two parts – a camera bayonet ring, which attaches to the camera, and a lens ring which attaches to the lens. Their combined thickness is 25mm. One or more intermediate rings can be placed between the camera and lens rings to provide more extension for even closer focusing.

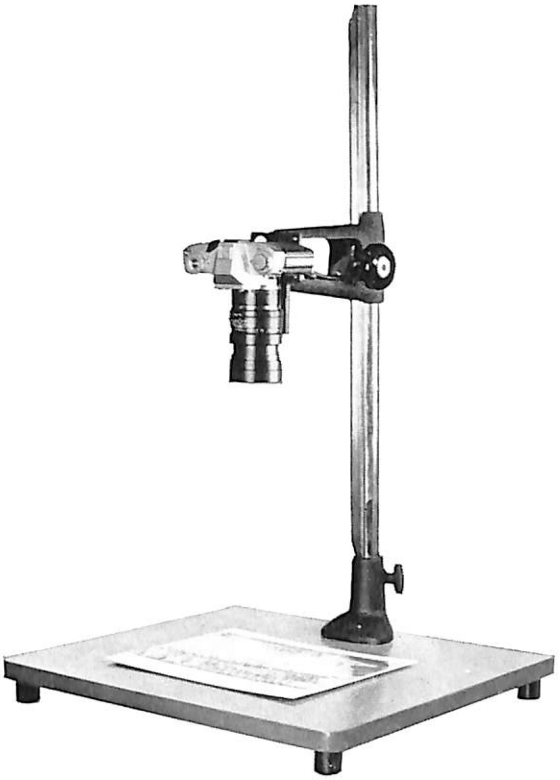
When the camera bayonet ring is attached to the Leicaflex, the follow pointer of the built-in exposure meter of the camera is automatically set for exposure reading at f/11. This aperture is recommended for close-up photography since it provides good depth-of-field combined with reasonable speed.

The Combination Ring for the Leicaflex (Cat. No. 14,134) consists of the camera bayonet ring and lens ring and costs $19.50. Intermediate rings (Cat. No. 14,135) are $5.70. They became available beginning in November.

COMBINATION RING with 50mm SUMMICRON-R lens and ELPROS for LEICAFLEX

COMBINATIONS	DISTANCE SCALE ON LENS MOUNT		DISTANCE OBJECT-FILM		RATIO	EXPOSURE FACTOR
	m	inches	mm	inches		
14134-(1) + 14134-(2)	∞	∞	231	9.09	1:2.08	2.0
14134-(1) + 14134-(2)	0.5	20	215	8.46	1:1.63	2.4
14134-(1) + 14134-(2) + ELPRO VIa	∞	∞	212	8.35	1:1.64	2.0
14134-(1) + 14134-(2) + ELPRO VIa	0.5	20	203	8.03	1:1.35	2.4
14134-(1) + 14134-(2) + ELPRO VIb	∞	∞	196	7.72	1:1.35	2.0
14134-(1) + 14134-(2) + ELPRO VIb	0.5	20	192	7.56	1:1.14	2.4
14134-(1) + 14135 + 14134-(2)	1.5	60	202	7.95	1:1	3.6
14134-(1) + 14135 + 14134-(2) + ELPRO VIa	∞	∞	199	7.83	1.09:1	3.5
14134-(1) + 14135 + 14134-(2) + ELPRO VIb	∞	∞	194	7.64	1.23:1	3.5

Sections of the divisible Combination Ring 14,134 are marked (1) and (2). When used, Intermediate Ring 14,135 is placed between the two sections of the Combination Ring.



reproduction stand accepts both Leica, Leicaflex

compact unit is easily stored

An accessory which integrates with both the Leica and Leicaflex systems of photography is the new Reproduction Stand which accepts the Leica M models with the Visoflex housing as well as Leicaflex bodies.

The rigid construction, close tolerances and precise manufacture of the new stand assure that film plane and flat subject matter to be copied are parallel to one another for accurate reproduction. The baseboard of the reproduction stand accepts copy up to about 14½ by 20½ inches; the 31-inch upright can be swung through 180° so that, when desired, larger subject matter can be accommodated below table level.

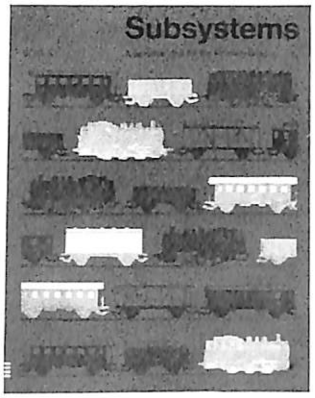
The cross arm which holds the camera can be raised or lowered quickly for sizing and rough focusing when a spring-loaded lock is released by a squeeze of the operator's hand. Cross-arm, upright and baseboard can be quickly and easily dismantled for transportation or storage in a small space.

Price of the new Reproduction Stand (Cat. No. 16,707) to become available in December, including baseboard, upright and cross-arm, will be $90.00.

photographing ideas

John W. Denzler

leica helps improve science teaching



My job is to take pictures of scientific concepts. Visualizing ideas – especially for the use of youngsters studying elementary school science – isn't always easy. You have to have a pretty clear idea of what you're after, and you have to use equipment that works fast and surely and doesn't get in your way.

I help to produce educational materials for the Science Curriculum Improvement Study. This is a project which evolved from a group of scientists and educators at the University of California, Berkeley, who began a study for curriculum improvement in elementary school science.

In trying to better elementary-school science programs, the group began an exploratory teaching program in several San Francisco Bay Area schools to test its research. Their results went into integrated packages of teachers' manuals, students' manuals, kits of equipment and audio-visual aids which are used by regular elementary teachers for a three-year trial period.

SCIS is trying to produce a program which will both guide a child's development in his experience with the world and also provide him with a frame of reference in which to view such experience.

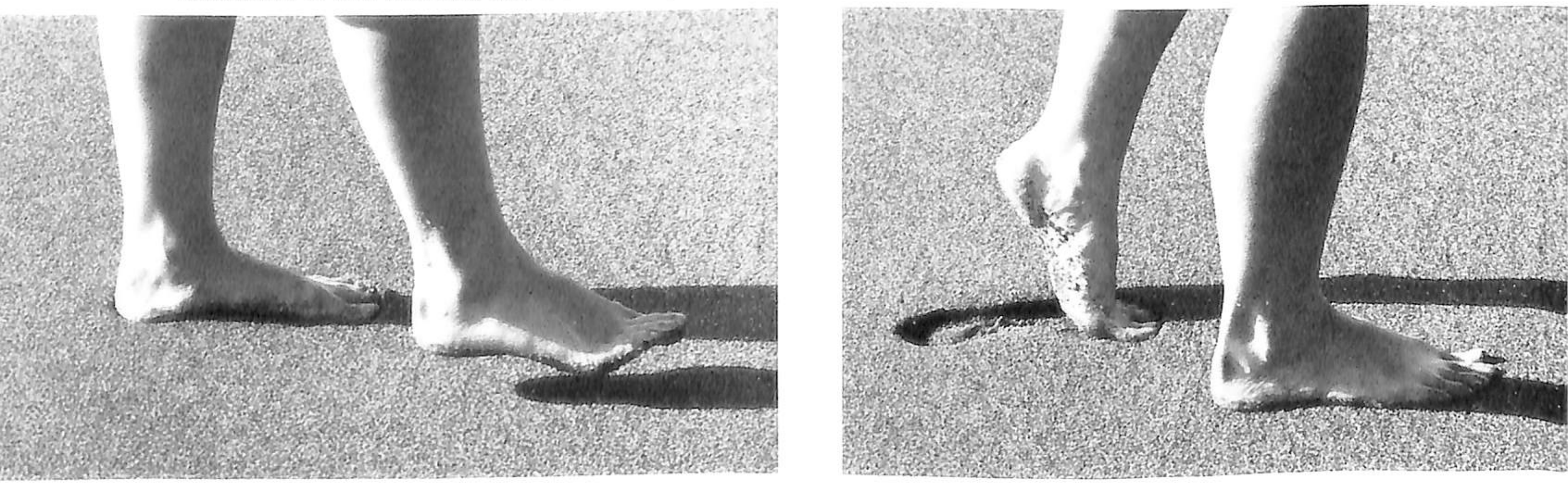
In all elementary curriculums, pictures are often used to show a young child about a situation more clearly than words could tell him about it. We use photography in two ways in SCIS. First, we make it a recording device during trial teaching sessions or evaluation of lessons. I've found that my Leica will capture very readily the quickly changing classroom scenes and fleeting expressions on children's faces.

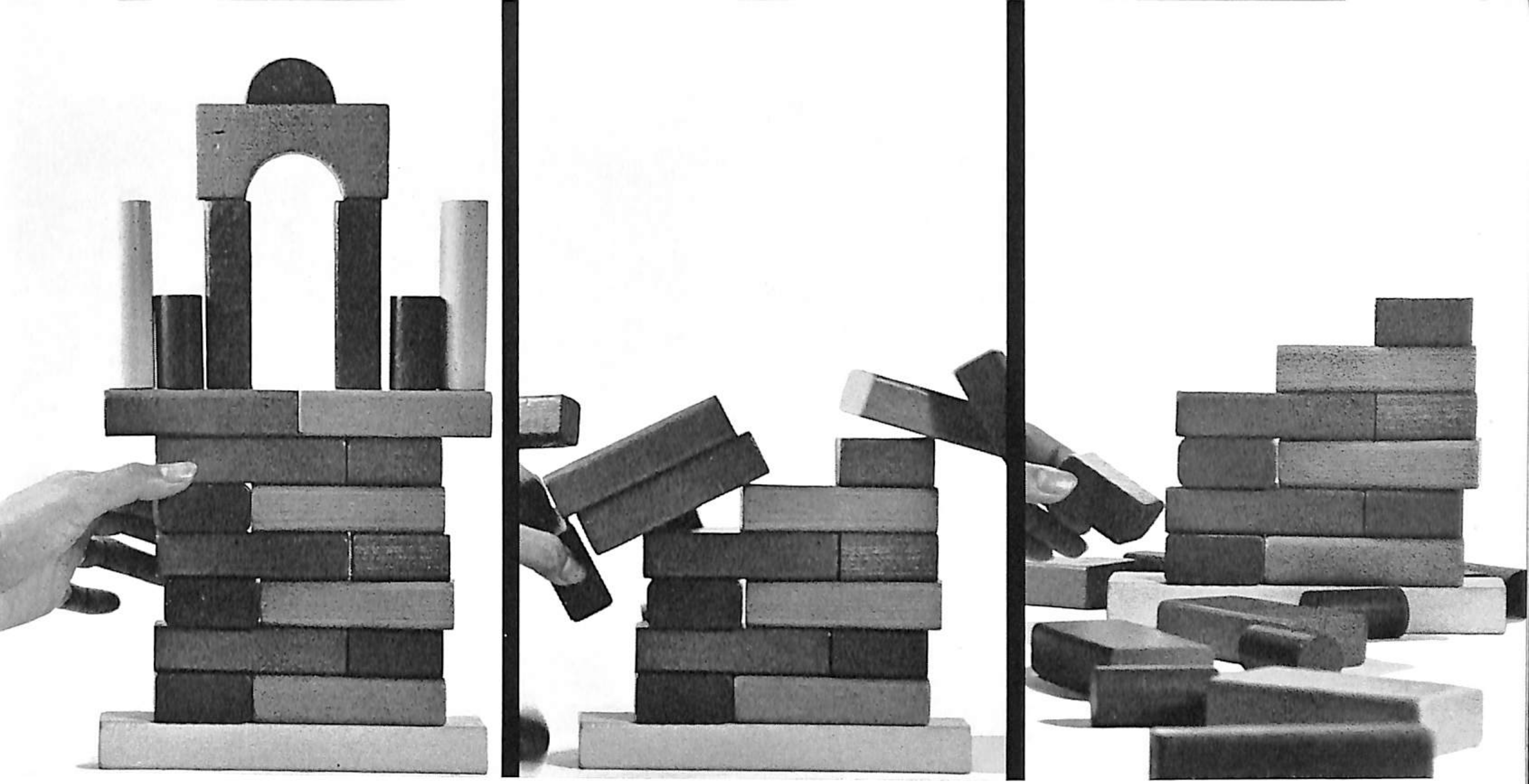
Our other photography is instructional – a tool to get across scientific concepts to inquiring young minds. This part of our work is a continual challenge. For instance: how would you make photos showing *interaction* for use in an instructional manual? Interaction deals with the transformation of energy, or, to put it more simply, cause/effect relationships. Only continuous recording such as motion pictures, video tape or sound tapes can represent the exact moment of interaction, but a series of Leica photos can satisfactorily show the causes of the interaction and evidence that it took place.

Our student manual on the subject included such sequences as the interaction of waves with sand, a cat eating a fish, a girl brushing her hair with the resulting static electricity, and others. A tricky one that my Leica captured nicely showed a structure of toy blocks tumbling down when a hand removed a key block from the group.

Another part of my work involves the designing and photographing of cover illustrations for our teachers' and students' manuals. More-or-less typi-

INTERACTION OF FEET with damp sand is one of many short series of teaching photos made by SCIS in developing its visual materials.





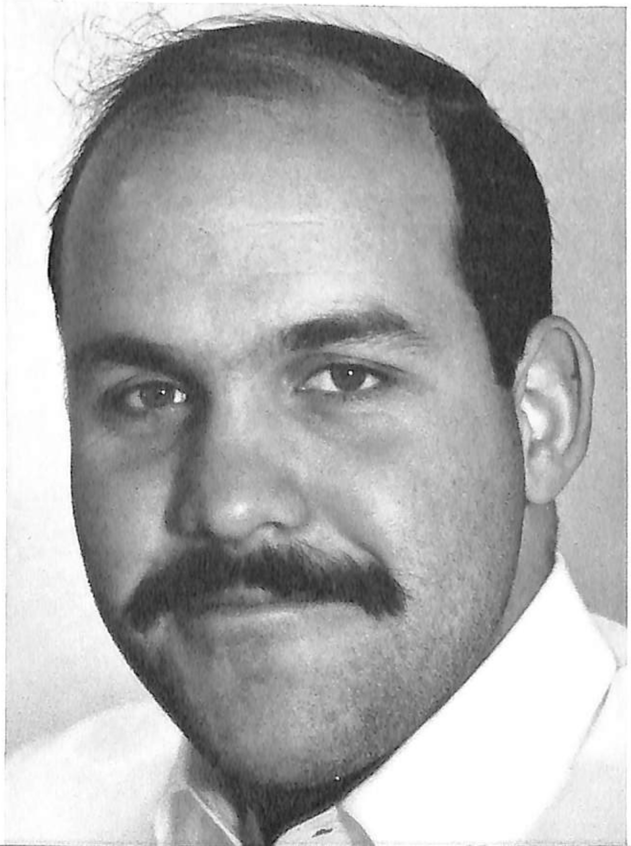
TRICKY TEACHING SEQUENCE was captured by fast-handling Lieca. When a key block was removed, most of the whole pile fell down.

cal of this kind of problem was the cover of our *Subsystems* manual. I wanted the cover to express the idea of a subsystem, which is, of course, a component of a system.

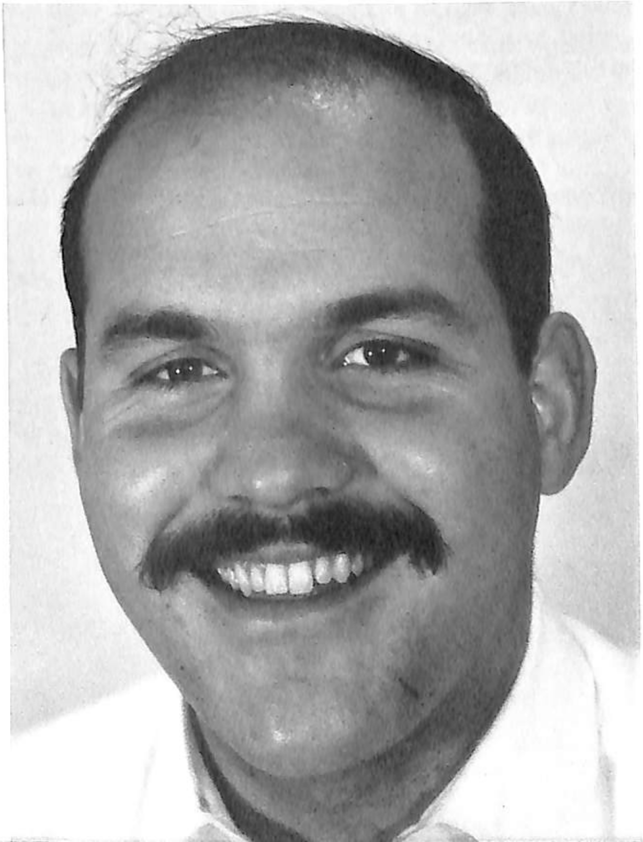
In any event, I chose a train as a symbol of a system, with individual cars as subsystems, and used my Leica and 135mm Elmarit to make pictures of a model train for the cover. The long lens gave me ample working distance combined with a big image and flat perspective which helped the cover design.

The race between discovery and learning has begun in earnest in the latter half of this century. Nature is yielding her secrets with unprecedented and increasing speed. It is a challenge to each new generation of school children to absorb the ever-growing fund of knowledge available to them. SCIS is trying to find better ways of teaching science to upcoming groups of young students, and my Leica and I are trying to find better ways to communicate understanding directly as only photography can.

SIMPLE SHOT of man listening to talk can help to teach children.



BIG SMILE shows interaction of ideas and physical expressions.



sharp—sharper—sharpest / *Peter Moore*

get the most from your lenses

If you've never felt that your pictures *could* be sharper, you're a rare and uncritical bird. Your Leica can produce results that would probably astound you. Let's see how.

What's a *sharp* picture anyway? From the scientific point of view, it's hard to define – and harder to measure. We'd have to compare quantitatively the resolution and crispness (a 5¢ word for acutance) of our photograph with its original subject under controlled conditions, bearing in mind a theoretical maximum. So forget all this. Measuring sharpness emotionally is automatic – and we get a warm glow of satisfaction when our results exceed our expectations.

The key word here is "expectations." These should vary with the subject matter and the purpose of our photograph. Sharpness appropriate to a copied document or industrial study would look grotesque in a picture of Aunt Minnie, and would destroy the mood of a fog-shrouded landscape.

Maximum sharpness is achieved by faithful attention to detail in a whole chain of events from subject choice to picture presentation.

Keep your kit in good working order. If your camera's been on the shelf for a while or has been subjected to a shock, clean the lenses and check it as outlined below.

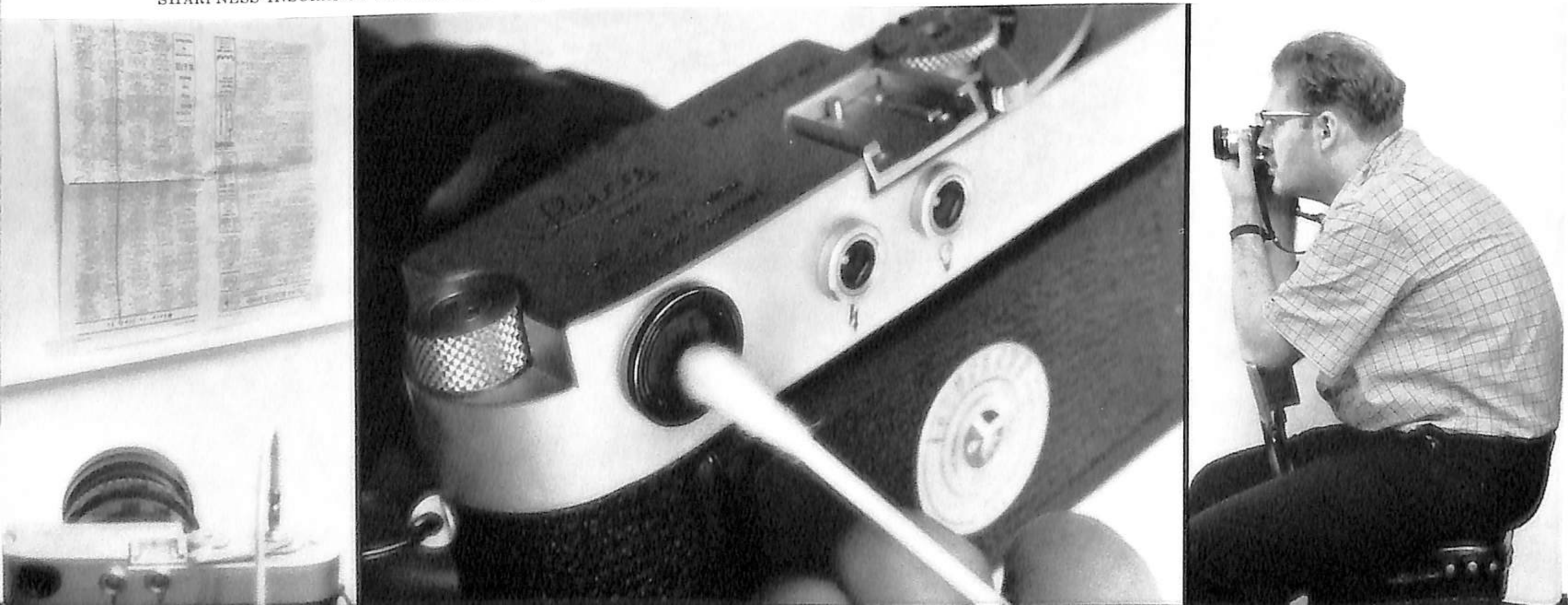
With the camera empty, fire the shutter repeatedly. Listen for inconsistent operation at lower shutter speeds. If in doubt, have it cleaned and checked. Like a watch, a camera needs periodic cleaning and lubrication.

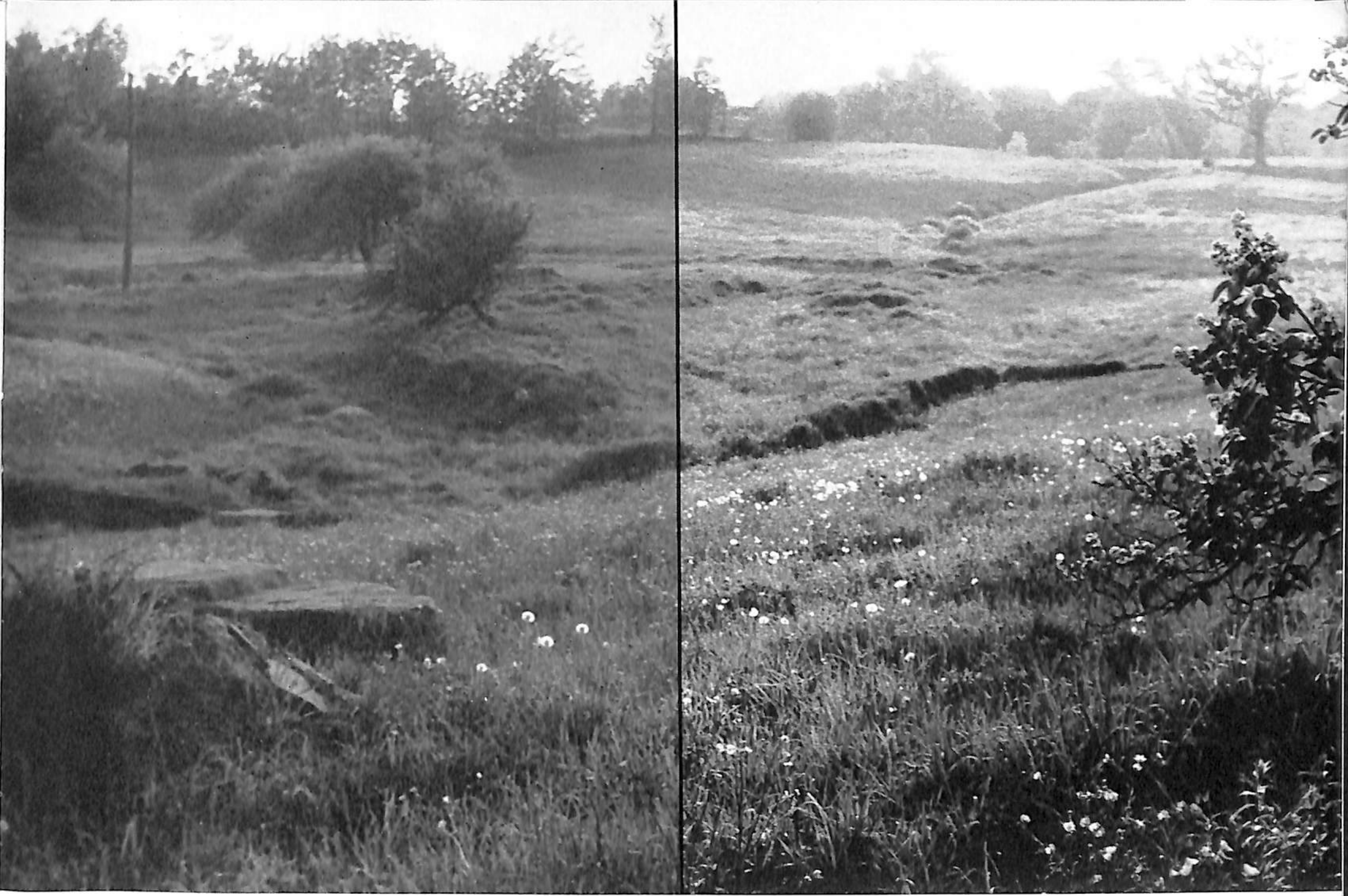
Check the focus at infinity. Set the lens to infinity on the focusing scale and look at a clearly defined subject several hundred feet away. If the rangefinder images coincide vertically and horizontally or the groundglass image seems sharp, you're in business and can proceed to the close-focusing test. If not, have the camera checked and adjusted professionally.

Check focus at three feet. Tape up a magazine or newspaper page on an evenly lit wall and mark a heavy vertical line down the middle of it. Photograph it at a 45-degree angle from three feet away using your lens wide open and the appropriate shutter speed, focusing precisely on the line. Repeat several times, refocusing each time. Use a tripod.

Examine the resulting negatives or transparencies with a good magnifier to see if the zone of maximum sharpness coincides with the line focused upon. If you're consistently sharper in front or in back, have the camera adjusted. If your results are inconsistent, you're just not being careful enough. If you're OK with one lens, the odds are you're OK with all. Dis-

SHARPNESS INSURANCE includes checking focus with test shots (l.), keeping optics clean (center) and bracing body while shooting.





SOFT AND SHARP IMAGES are straight prints from same negative. But right-hand image is on grade 6 paper, left-hand on grade 2.

crepancies either at infinity or close up can be easily corrected by a good repairman.

Keep your optics clean – not just the front surfaces of your lenses, but also the rear surfaces, rangefinder windows and eyepieces, reflex eyepieces, screens, mirrors, filters, close-up lenses, etc. Dust them first with a blast of air from an ear syringe or use a camel's-hair brush. Frequently this will be enough unless the surfaces are fingerprinted. If more thorough treatment is called for, breathe gently on the lens and polish with a good grade of *lens* tissue – *not* silicone-treated eyeglass tissue, *not* your handkerchief. Roll a piece into a small "stick," tear off one end and use this to brush the lens surface gently. Don't scour. Don't use lens-cleaning fluids unless absolutely necessary – and use them *sparingly*.

Use thin, high-grade filters, preferably with screw-in mounts to hold them close to the lens and in perfect alignment. With long-focus, wide-aperture lenses the use of gelatin filters may prove economical and optically excellent.

Consider your subject, the amount of light present and the type of result you want before choosing your film. Don't automatically reach for slow black-and-white or color films – you may regret it. First, ask yourself some questions. How much light is present? How high a shutter speed will I need to stop the action? Does the subject demand great depth of field or selective focus? Now pick a film *just* fast enough to reconcile the amount of light available with your speed and aperture requirements. You may often find yourself using a medium or high speed film rather than a slow, fine-grain one.

Use a shutter speed you can handhold *steadily* or use a tripod. This is undoubtedly faster than you realize. *The most frequent cause of unsharpness is, without a doubt, camera or subject movement during exposure.* With modern films there should be little need to shoot slower than 1 50th indoors, or 1 125th outside. You're better off with a fast film at 1 250th than with a slow one at 1 60th unless you have a consistently steady hand. Use as high a shutter speed as possible.

If you must shoot at low speeds, practice will help. Learn to cradle the camera firmly in your hands, but don't squeeze it to death. Muscular tension can lead to a nervous tremor that will take the edge off picture sharpness. For the same reason, try to avoid carrying heavy weights (camera cases, etc.) for extended periods just before shooting.

Squeeze off your shots gently – ideally you shouldn't know exactly when the exposure will be made. Stand with your feet slightly apart so that the camera naturally faces your subject. Learn to brace yourself against walls, corners, tables and chairs. Some people use their neckstraps like rifle slings. The Leitz Table Tripod is a big help when used as a chest pod with long lenses.

Run *all* your negatives through the enlarger for inspection *soon* after you shoot them and keep tabs on yourself. If you shoot a lot of color, keep some of the clinkers as a reminder of your errors.

Once tried, the tripod habit can grow on you. Be prepared. In addition to holding a camera steady, a tripod supports the weight, holds the camera so your composition is the same through a series of pictures, and facilitates controlled movement in following action. If you *must* use a light tripod, get one without a center column – few are strong enough to support heavy lenses on an extended column. A heavier tripod with a large Leitz Ball-Joint head preferable to any light weight tripod, however. For tele work with lenses over 200mm, or ultra-close up work, get really heavy-duty tripod, one designed to handle a 4x5 camera. It may weigh a couple of pounds more but it will be rock-steady. I find the Leitz Table Tripod invaluable. It's a wall-pod, chest-pod, floor-pod, table-pod. With the large Ball-Joint head, it will handle even a 200 or 280mm lens adequately. Which brings us to another point: your tripod's only as good as the surface it's standing on. Beware of vibrations due to machinery or heavy traffic. If you're really critical, raise your Leicaflex or Visoflex mirrors first, let the apparatus settle down, and then fire the shutter.

Pick a lens that will fill your negative, or move to a shooting position that will do the job. When possible, work at the optimum aperture of your lenses (2 to 4 stops below wide open). Slow lenses may be a better choice for sharpness use out of doors at smaller apertures.

Expose no more than necessary for adequate shadow detail. This minimizes halation within the negative and permits highest practical shutter speeds: *(See "Gray Scale: Key to Photo Control" in LEICA PHOTOGRAPHY No. 1, 1966 for tests to determine proper film speeds and developing times for your equipment . . . Ed.)*

When processing film, strive for close temperature control, including rinses, wash, and drying temperatures. Don't overdevelop. Try to keep wet time short by using quick-acting developers and fixers, hypo clearing agents, efficient washers.

For projection, matte screens give sharper images than beaded or lenticular models. Keep projector lenses and condenser lenses clean and use a solid projection table. *(And, of course, use a projector with top-quality optics, or waste your other efforts ... Ed.)*

Enlarging is a classic case of time-exposures complicated by large magnifications. Keep both surfaces of lenses, condensers and variable-contrast filters clean. Focus carefully using a grain focuser to check yourself (or your autofocus adjustment), using an old sheet of enlarging paper under the focuser to compensate for the thickness of your printing paper. Stop down from the maximum aperture before making the exposure. Don't smoke in the darkroom. It's dust-producing and the smoke may diffuse your images as it drifts through the enlarger beam. Watch out for room vibrations due to trains, heavy traffic, oil burners, etc. by watching the image in a good grain focuser such as the Scoponet. One of today's greatest photo-journalists traced unsharpness in a new darkroom to an overly robust hi-fi loudspeaker. If you have vibration problems you can wall-mount your enlarger (unless the wall vibrates too) or float the enlarger, baseboard and all, on a chunk of foam rubber. Let your enlarger settle after handling before exposing. If your easel has a white surface, you may notice some bleeding at the edges of black areas when enlarging on single weight paper due to light bouncing back from the easel and degrading the image. Consider whether a small, sharp print may not do more justice to your less-than-perfect negatives (4 x 6″ prints made on 11 x 14 paper are "in" this year). As first aid, consider the use of hard papers on soft negatives. Our lead picture, an atmospheric landscape seemed too atmospheric on normal paper. Printing it on #6 paper made a dramatic improvement. Acutance again. Hard paper slims down the edges. Good thing to keep in mind!

To end on a philosophic note: don't let sharpness become an overriding factor in choosing subject matter. Some of the greatest photographs around are relatively unsharp – but *not* more so than necessary. The small camera, a compact and mobile instrument, is ideally suited for capturing fleeting instants from dynamic situations. Mobility and speed of use are its forte. Properly used, it can make prints which are practically indistinguishable from large-negative pictures. But to anchor it to the production of perfect but static images is defeating its major purpose. Learn how to make sharp pictures, but don't let sharpness become an end in itself.

witness to our time

a new book by Alfred Eisenstaedt

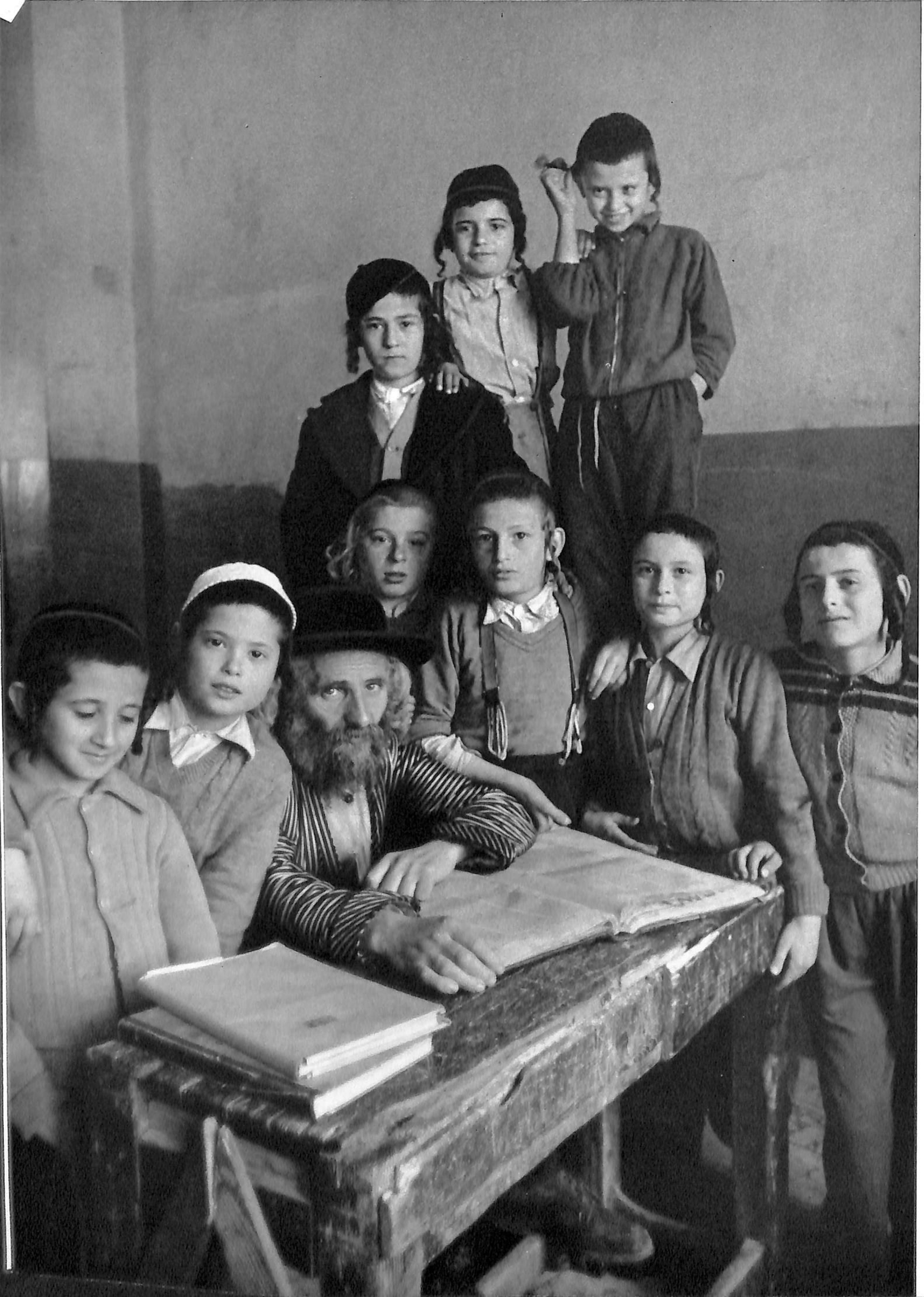
PHOTOGRAPHS
Montmartre, Paris, 1963
Jerusalem, 1955
G. B. Shaw, Whitehall Court, London, 1932
Beethoven's Birthplace, Bonn, Germany, 1934

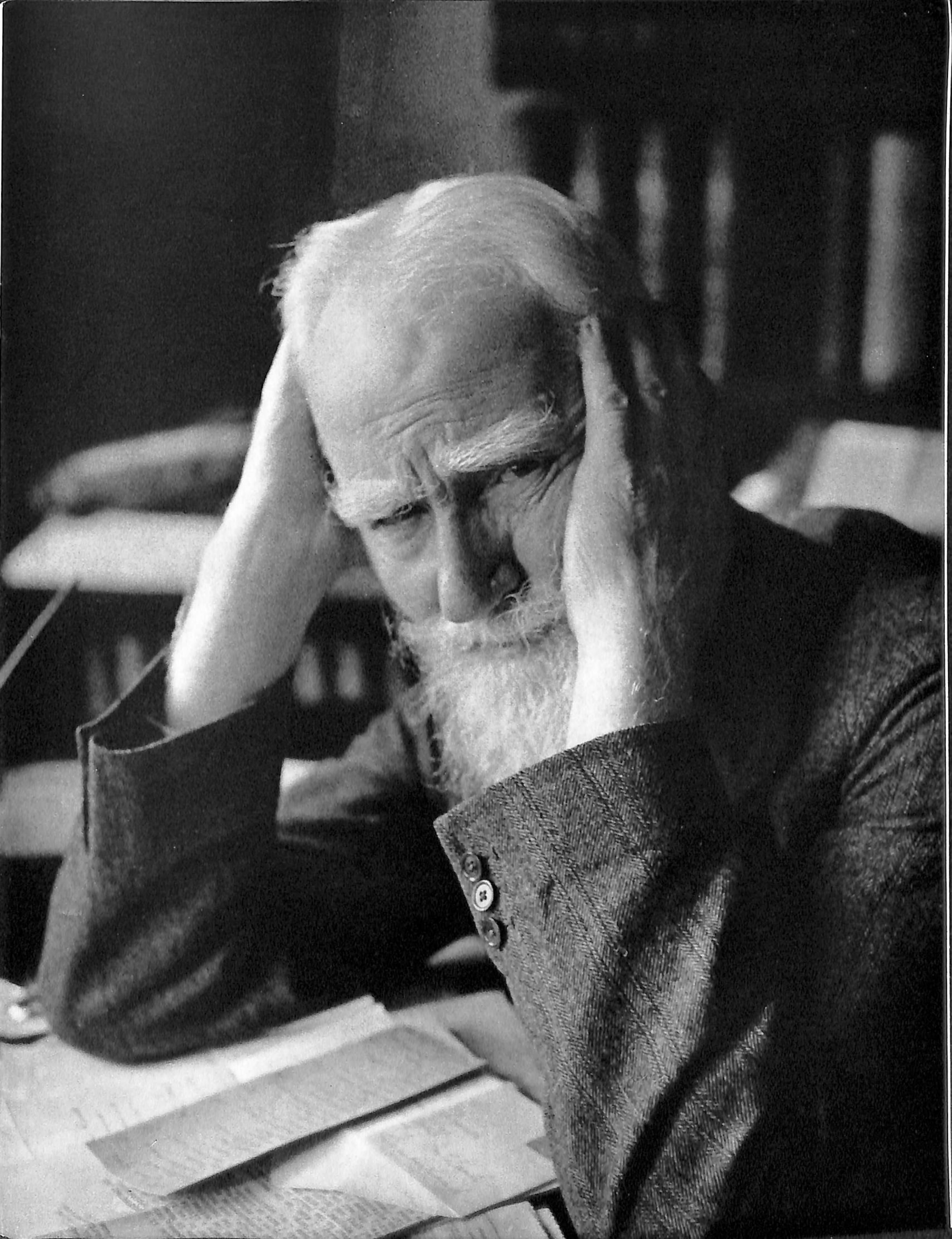
There is very little to say about Alfred Eisenstaedt that has not already been said. Internationally famous, the recipient of numerous awards, he seems to have photographed everything and everyone of significance everywhere. Readers of Leica Photography will recall that when "Eisie" was awarded the one millionth Leica in 1961, it was in recognition of his outstanding career as a photojournalist – "one who has contributed much to the shaping of his chosen profession of reporting in pictures."

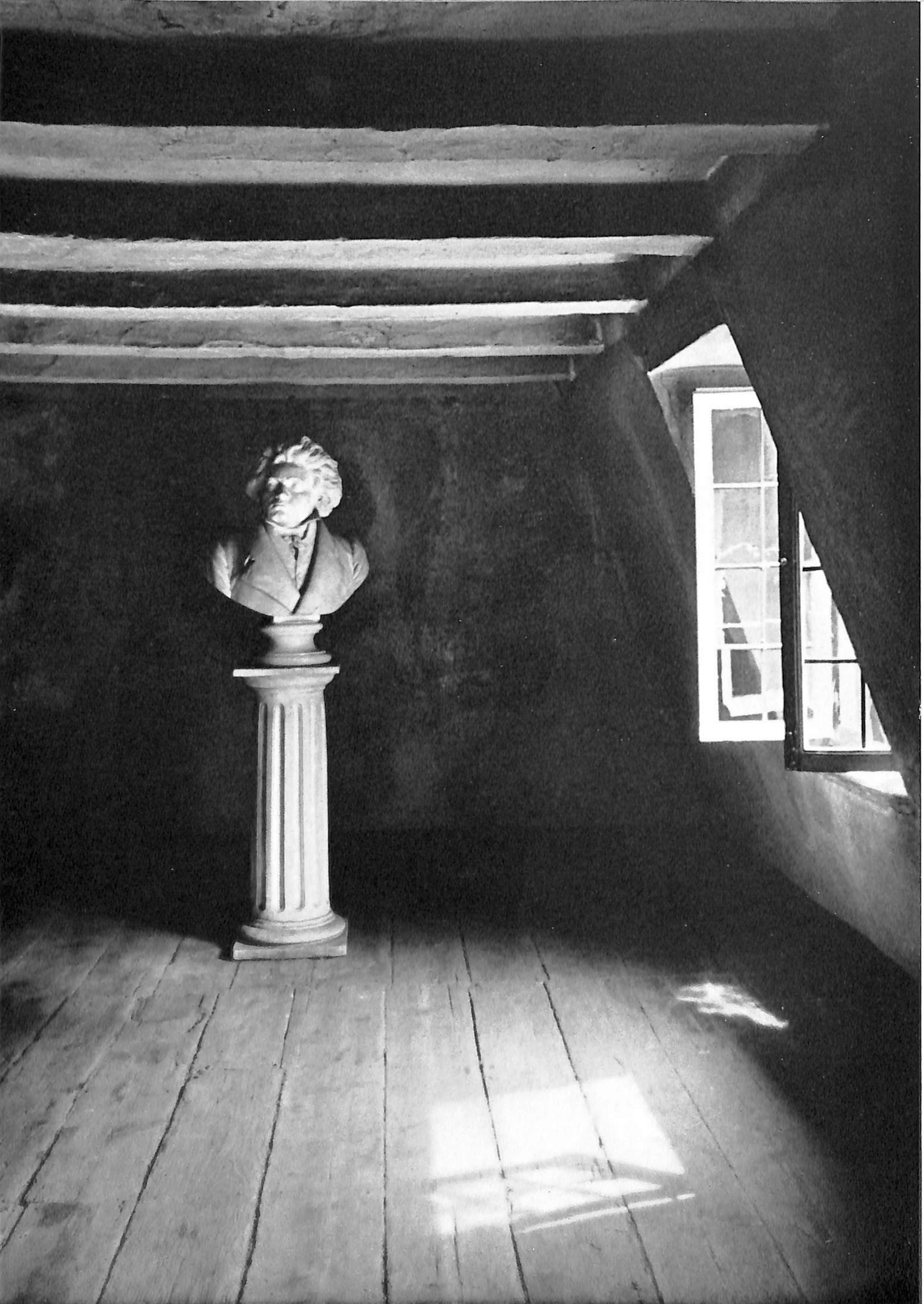
A member of the original LIFE staff, which he joined in 1936 when it was still an experimental project, he continues today to be one of the busiest and most vital of photographers, bringing to his work an honesty, and a directness and clarity that everyone can understand.

This remarkable career has now been channeled between the covers of a book with the recent publication of "Witness To Our Time," by Viking Press. In the 379 black and white photographs and 48 color pages, "Eisie" emerges with all the energy and enthusiasm he brings to his work. One is overwhelmed by the sheer volume. Here are the events, the milestones, the aura of more than three decades, and the personalities in every field who formed and became a part of them. Here, too, are many previously unpublished photographs, the small sidelights, the ordinary faces. For, although a professional through and through, Eisenstaedt delights in photography like any amateur. He really begins to photograph, he says, during the summer weeks he spends every year on Martha's Vineyard. On these pages, a small sampling of "Eisie" through the years.

Alfred Eisenstaedt, "Witness To Our Time" is a Viking Press Studio Book. Foreword by Henry Luce. Hard Cover — 344 pages — 48 color and 379 monochrome gravure illustrations. 9¾ x 12¾. $16.50 at your franchised Leica Dealer.







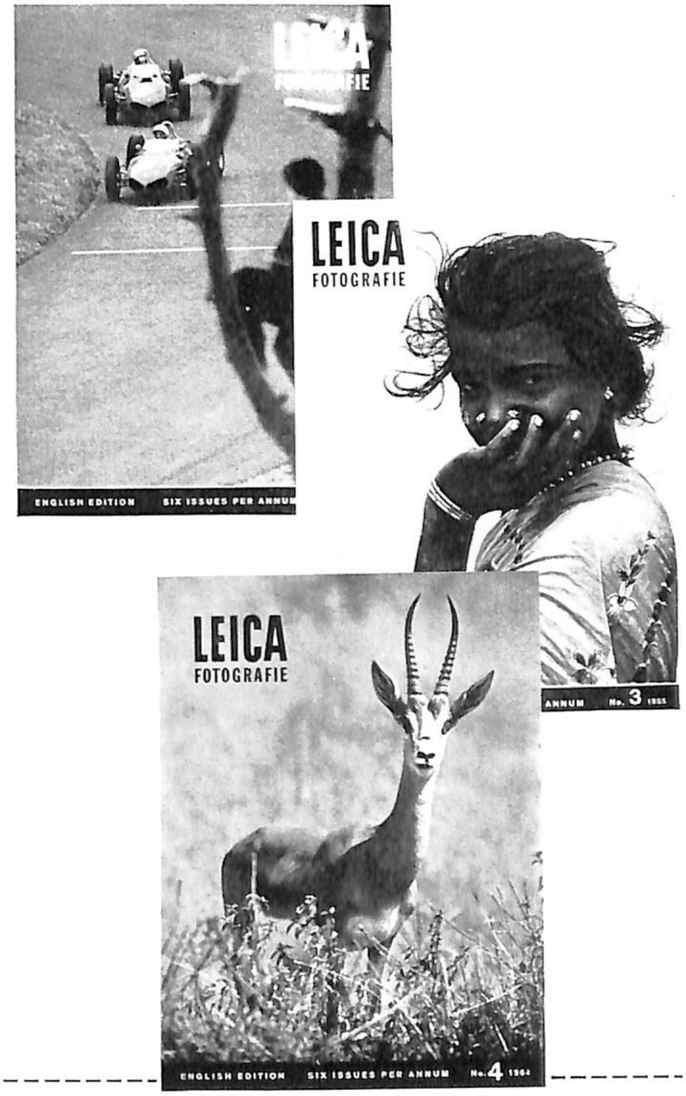
LEICA FOTOGRAFIE

Thousands of Leica owners already enjoy the continental flavor of Leica Fotografie, a bi-monthly magazine edited in Wetzlar, Germany, the Leica's home town. Do you? If not, you're missing something good! An English-language edition is available through E. Leitz, Inc., New York.

Like your own Leica Photography, the European magazine is devoted to the use of your favorite camera. It brings you the photographs of leading British and continental professionals and amateurs. There are authoritative articles on Leica technique by staff members of the famous Leica Schule at Wetzlar and many other world-famous photo experts.

Leica Fotografie will bring you advance news of new developments in the Leica and Leicaflex systems as well as discussions of general developments in 35mm photography. Regular columns such as Chris W. Broere's "Chit-Chat on Leica Technique" answer questions on Leica methods and explain the use of various lenses and accessories in the camera systems.

The beautiful pictures and rock-solid technical information in Leica Fotografie will inspire your own picture taking and add even more enjoyment to being a Leica owner. Fill out the coupon that is below and send it to us together with your remittance. Please — no cash. Send either a check or money order payable to E. Leitz, Inc. That's all it takes to enjoy the pages of Leica Fotografie for months to come.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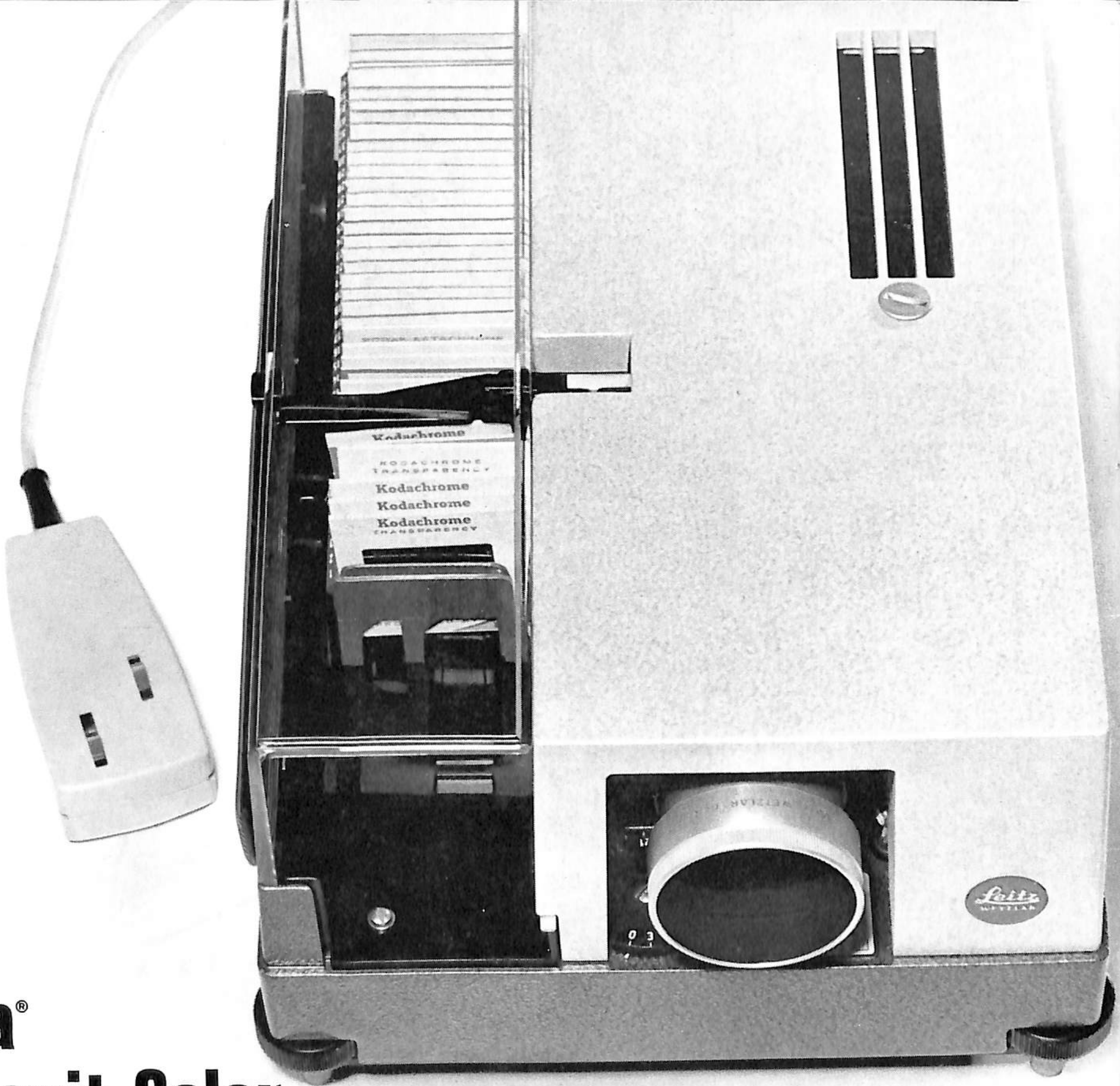

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